CLAIMS

What is claimed is:

1. A method of preparing an immunologically inert graft material comprising the steps of:

procuring body tissues from one of an autologous, heterologous or allogenic source;

soaking the body tissues in a bleach solution;

rinsing the body tissues in water to remove bleach solution from the tissues;

washing the body tissues in a detergent solution;

rinsing the body tissue to remove the detergent solution.

trimming the body tissue to a desired physical form;

soaking the body tissue in an iodophor solution;

rinsing the body tissue to remove the iodophor solution;

soaking the body tissue in a hypertonic solution;

rinsing the body tissue to remove the hypertonic solution therefrom;

agitating the body tissue in a caustic solution;

rinsing the body tissue in water under agitation to remove the caustic solution therefrom;

treating the body tissue with a peroxide solution under agitation;

rinsing the body tissue in sterile water; and

conserving the body tissues in a sterile environment until needed.

2. The method of preparing a graft material of claim 1 wherein the hypertonic solution is a saline solution.

3. The method of preparing a graft material of claim 1 wherein the step of soaking the body tissue in a hypertonic solution further comprises the steps of:

soaking the body tissue in a series of increasingly hypertonic solutions and

rinsing the body tissue after each soaking in a hypotonic solution to remove the hypertonic solution therefrom.

4. The method of preparing a graft material of claim 1 wherein the caustic solution comprises one of sodium hydroxide, potassium hydroxide, ammonium hydroxide, calcium hydroxide, sodium dodecylsulfate, urea, phenol, and formic acid.

5. The method of preparing a graft material of claim 1 wherein the caustic solution comprises a sodium hydroxide solution having a concentration of between .75 N and 1.25N.

6. The method of preparing a graft of material of claim 3 wherein the series of hypertonic solutions comprise 2%, 4%, 6%, 8%, 10% and 12% saline solutions.

7. The method of preparing a graft material of claim 1 wherein the body tissue is immersed in hydrogen peroxide in a reaction chamber comprising:

a receptacle portion into which hydrogen peroxide and the body tissue are placed;

an agitation that is supported upon an axle with in the receptacle and which rotates so as to agitate the hydrogen peroxide and body tissue; and

a perforated cover placed over the receptacle so as to maintain the body tissue below the surface of the hydrogen peroxide.

8. An immunologically inert graft material produced by the method of claim 1.

9. A method of preparing an immunologically inert graft material comprising the steps of:

washing the body tissue in a detergent solution;

treating the body tissue with one or more anti-microbial and anti-viral solutions;

soaking the body tissue in a hypertonic solution;

soaking the body tissue in a solution comprising a caustic reagent;

treating the body tissue with a hydrogen peroxide solution; and

conserving the body tissue in a sterile environment.

10. A method of preparing an implantable graft material by removing cellular components from a preexisting extra cellular matrix comprising the steps of:

freezing and subsequently thawing an untreated portion of the extracellular matrix in a bleach solution;

washing the extracellular matrix in a detergent solution;

lysing cellular components present in the extracellular matrix by soaking the extracellular matrix in a hypertonic solution;

soaking the extracellular matrix in a solution of sodium hydroxide; and,

soaking the extracellular matrix in a solution of hydrogen peroxide.

11. The method of preparing an implantable graft material of claim 10 further comprising the step of treating the extracellular matrix with an antibacterial agent.

12. The method of preparing an implantable graft material of claim 10 further comprising the step of soaking the extra cellular material in an iodophor solution.

13. The method of preparing an implantable graft material of claim 10 further comprising the step of treating the extracellular matrix with an antibiotic solution.

14. The method of preparing an implantable graft material of claim 10 further comprising the step of treating the extracellular matrix with an antibiotic solution comprising kanamycin.

15. The method of preparing a graft material of claim 1 wherein the body tissue is additionally treated with a bactericidal agent.

16. The method of preparing a graft material of claim 1 wherein the hydrogen peroxide solution may be replaced by one of peracetic acid, perbenzoic acid, benzoyl peroxide, sodium peroxide, and potassium permanganate.

17. The method of preparing an immunologically inert graft material of claim 9 wherein the anti-bacterial solution comprises one of an iodophor and a bleach.

18. The method of preparing an immunologically inert graft material of claim 9 wherein the anti-bacterial solution comprises one of povidone-iodine, sodium hypochlorite, and calcium hypochlorite.

19. The method of preparing an immunologically inert graft material of claim 10 wherein one of potassium hydroxide, ammonium hydroxide, calcium hydroxide, sodium dodecylsulfate, urea, phenol, and formic acid may be substituted for sodium hydroxide.

20. The method of preparing an immunologically inert graft material of claim 9 wherein one of peracetic acid benzoyl peroxide, sodium peroxide, potassium permanganate may be substituted for hydrogen peroxide.

21. The method of preparing an immunologically inert graft material of claim 9 wherein the bleach solution may comprise one of sodium hypochlorite and calcium hypochlorite.

22. The method of preparing an immunologically inert graft material of claim 10 wherein an iodophor may be substituted for the bleach solution.

23. The method of preparing an immunologically inert graft material of claim 22 wherein the iodophor comprises povidone-iodine.

24. The method of preparing an immunologically inert graft material of claim 1 further comprising the steps of initially freezing the body tissues in a first bleach solution for a predetermined time and at a predetermined temperature and then thawing the body tissues in a second bleach solution.

25. The method of preparing an immunologically inert graft material of claim 9 further comprising the step of freezing, and subsequently thawing a preselected quantity of body tissue in a bleach solution.

26. A method of preparing an immunologically inert graft material from a body tissue having cellular material disposed within an extracellular matrix comprising the steps of:

lysing the cellular material disposed within the extracellular matrix by cycling the relative osmotic pressure the cellular material is exposed to by alternatingly exposing the body tissue to a hypertonic solution and a hypotonic solution;

deactivating antigens present in the body tissue by exposing the body tissue to at least one of a bleach solution, sodium hydroxide, and an iodophor solution; and,

stabilizing the body tissue by soaking it in an isotonic solution.

27. The method of preparing an immunologically inert graft material from a body tissue of claim 26 further comprising the step of exposing the body tissue to a sodium hydroxide solution.

28. The method of preparing an immunologically inert graft material from a body tissue of claim 26 further comprising the step of exposing the body tissue to a hydrogen peroxide solution.

29. The method of preparing an immunologically inert graft material from a body tissue of claim 26 further comprising the step of exposing the body tissue to an antibiotic solution.

30. The method of preparing an immunologically inert graft material from a body tissue of claim 26 further comprising the step of initially freezing the body tissue in a bleach solution.

31. The method of preparing an immunologically inert graft material from a body tissue of claim 26 wherein the hypertonic and hypotonic solutions are ionic and non-ionic aqueous solutions, respectively.

32. The method of preparing an immunologically inert graft material from a body tissue of claim 26 wherein the hypertonic solution is an aqueous saline solution and the hypotonic solution is water.

33. The method of preparing an immunologically inert graft material from a body tissue of claim 32 wherein the body tissue is exposed to an increasingly hypertonic series of saline solutions.